REMARKS

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant thanks the Examiner for the very thorough consideration given the present application.

Claims 1-20 are now present in this application. Claims 1, 10, 13, 14 and 20 are independent.

Claim 11 has been amended. Claims 13-20 have been withdrawn from consideration but are still pending.

Reconsideration of this application, as amended, is respectfully requested.

Priority Under 35 U.S.C. §119

Applicant thanks the Examiner for acknowledging Applicant's claim for foreign priority under 35 U.S.C. §119, and receipt of the certified priority documents.

Election of Species Requirement

The Examiner has made the Election of Species Requirement final, and has withdrawn claims 13-20 from further consideration. Applicant retains the right to file these claims in a divisional patent application.

Title of the Invention

In the Amendment filed on November 19, 2004, Applicant amended the Title of the Invention in order to better reflect the subject matter claimed. The Office Action wants Applicant to amend the title further. Applicant respectfully traverses this requirement because the proposed title is not truly reflective of all aspects of the disclosed invention, and only mentions what is found in some of the claims but not in other claims. For example, claim 14 does not recite "calculating a variation per track of a focus error."

Applicant respectfully submits that the title amendment of November 19, 2004, is more accurate than that which is suggested.

Reconsideration and withdrawal of this objection is respectfully requested.

Claim Objections

The Examiner has objected to claims 1-9 because claim 1, lines 2-3 recite "for maximizing an RF signal or minimizing jitter." The Examiner indicates that this quoted language is incorrect, without stating why, other than to recommend alternative language and to state that Applicant's disclosure does not support "detecting a track of a focus error for maximizing an RF signal or minimizing jitter." Applicant thanks the Examiner for

attempting to improve the application. However, Applicant respectfully submits that the language in issue is clear and accurately reflects what Applicant regards as his invention, which Applicant has a right to present in the claims. Moreover, Applicant respectfully submits that there is support for the language in issue in Applicant's originally filed Application. In this regard, reference is made to page 4, lines 1-4 of Applicant's specification, and original claim 1, which is part of Applicant's originally filed specification. It is well settled that the claims as filed are part of the specification, and may provide or contribute to compliance with Section 112. See Northern Telecom, Inc. v. Datapoint Corp. , 908 F.2d 931, 938, 15 USPQ2d 1321, 1326 (Fed. Cir. 1990) (the original claims are part of the patent specification); In re Benno, 768 F.2d 1340, 1346, 226 USPQ 683, 686-87 (Fed. Cir. 1985); In re Frey, 166 F.2d 572, 575, 77 USPQ 116, 119 (CCPA 1948), cited in Hyatt v. Boone, 47 USPQ2d 1128, 1130 (Fed. Cir. 1998).

Moreover, an applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought. As noted by the Court in In re Swinehart, 439 F.2d 210, 160 226 (CCPA 1971), a claim may not be rejected solely because of the type of language used to define the subject matter for which patent protection is sought.

Applicant respectfully submits that the proposed language is narrower in scope while not being any clearer than the claimed language it seeks to replace. Applicant is entitled to claim his invention as broadly as the art allows.

Accordingly, reconsideration and withdrawal of this rejection of claims 1-9 is respectfully requested.

Claim 11 is objected to because the language "and an optical disk" is grammatically confusing. Applicant respectfully traverses this objection because he believes that the claim language is clear in that "about" is considered to modify both "tilt initialization" and "an optical disk." However, in the interest of clarifying as many issues as possible during prosecution of the Application, Applicant has amended claim 11 to include two instances of "about." As amended, Applicant respectfully submits that the meaning of claim 11 is clear and definite.

Claim Rejection Under 35 USC §112, First Paragraph

Claims 2, 3, 5-9, 11 and 12 stand rejected under 35 USC §112, first paragraph, as failing to comply with the enablement requirement.

Initially, Appellant respectfully submits that the Office Action does not make out a *prima facie* case of lack of enablement of the invention recited in claims 5-19.

The Examiner admits that the specification, page 11, lines 8-12, mentions detecting the DC component using the maximum of the peak-to-peak

values of the FE or both, but states that nowhere in the specification does the Applicant describe how a normalized DC component, or simply a DSC component, is calculated using a variation per track of the maximum value and the minimum value of the focus error.

An analysis of whether the claims under appeal are supported by an enabling disclosure requires a determination of whether that disclosure contained sufficient information regarding the subject matter of the appealed claims so as to enable one skilled in the pertinent art to make and use the claimed invention. The test for enablement is whether one skilled in the art could make and use the claimed invention from the disclosure coupled with information known in the art without undue experimentation. See, United States v, Telectronics, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed, Cir, 1988), cert, denied, 109 S.Ct. 19 54 (1989); In re Stephens, 529 F.2d 1343, 1345, 188 USPQ 659, 661 (CCPA 1976). As framed by our reviewing court, the dispositive issue with regard to the first paragraph rejection is whether the disclosure is sufficient to enable one of ordinary skill in the art to practice the claimed invention. See, Lindemann Machinenfabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 1463, 221 USPQ 481, 489 (Fed. Cir. 1984).

In order to make a rejection, the Examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. See, In re Wright, 999 F.2d 1557, 1561-2, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993) (Examiner must provide a reasonable explanation

as to why the scope of protection provided by a claim is not adequately enabled by the disclosure). A disclosure which contains a teaching of the manner and process of making and using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 USC 112, first paragraph unless there is a reason for doubting the objective truths of the statements contained in the disclosure which must be relied on for enabling support. Assuming that sufficient reason for such doubt exists, a rejection for failure to teach how to make or use will be proper on that basis. See, In re Marzocchi, 439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971).

Once the Examiner has established a reasonable basis to question the enablement provided for the claimed invention, the burden falls on the Applicant to present persuasive arguments, supported by suitable proofs where necessary, that one skilled in the art would be able to make and use the claimed invention using the disclosure as a guide. See In re Brandstadter, 484 F.2d 1395, 1406, 179 USPQ 286, 294 (CCPA 1973). In making the determination of enablement, the Examiner shall consider the original disclosure and all evidence in the record, weighing evidence that supports enablement [the appellant may attempt to overcome the Examiner's doubt about enablement by pointing to details in the disclosure but may not add new matter. The appellant may also submit factual affidavits under 37 CFR 1.132

or cite references to show what one skilled in the art knew at the time of filing the application against evidence that the specification is not enabling.

Thus, the dispositive issue is whether the Applicant's disclosure, considering the level of skill in the art as of the date of the appellant's application, would have enabled a person of such skill to make and use the claimed invention without undue experimentation. The threshold step in resolving this issue is to determine whether the Examiner has met his burden of proof by advancing acceptable reasoning inconsistent with enablement.

Factors to be considered by an Examiner in determining whether a disclosure would require undue experimentation include (1) the quantity of experimentation necessary, (2) the amount of guidance or direction presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. See, In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988), citing Ex parte Formal, 230 USPQ 546, 547 (Bd. Pat, App. & Int. 1986).

Moreover, a rejection based on Sections 101, 102 or 103 must rest on a factual basis. An Examiner has the initial duty of supplying the factual basis for the rejection advanced, and the Examiner may not, because of doubts that the invention is patentable for lack of compliance with a statutory basis, resort to speculation, unfounded assumptions or hindsight reconstruction to supply

deficiencies in the factual basis, compare, In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968).

The final Office Action has not addressed the aforementioned "Wands" factors, despite the fact that Applicant informed the Office of the requirement to do so in the Amendment filed on June 8, 2004. This failure is considered fatal to the merits of providing a *prima facie* basis for the rejection.

Instead of providing any objective factual evidence of lack of enablement, the rejection merely states that "nowhere in the specification does the Applicant describe how a normalized DC component (or simply a DSC component) is calculated using a variation per track of the maximum value and the minimum value of the focus error."

The Office Action fails to address the aforementioned "Wands" factors in this regard, including the amount of guidance or direction presented, the presence or absence of working examples, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability of the art, and the breadth of the claims.

Instead of addressing the Wands factors, the Office Action totally fails to take them into consideration, thereby denying Applicant the substantive and procedural due process to which he is entitled under the Administrative Procedures Act (see in this regard, In re Zurko, 119 S.Ct. 1816, 50 USPQ2d 1930 (1999), and In re Gartside, 53 USPQ2d 1769 (Fed. Cir. 2000)) and failing to make out a *prima facie* case of lack of enablement.

Applicant respectfully submits that by disclosing in the specification that a normalized DC component is calculated using a variation per track of the maximum value and the minimum value of the focus error, that is all that one of ordinary skill in the art needs to make and use the claimed invention. A skilled worker in the DVD or CD or other optical recording/playback medium art makes these devices work using extremely sophisticated algorithms and concepts and generally has advanced scientific degrees plus specific training that would permit a skilled worked to take the teachings of this Application and be able to make and use every aspect of the claimed invention. The art involved in this invention has been in existence for many, many years and skilled workers have obtained a lot of experience in making and using inventions in this art. Moreover, the art is extremely predictable in that it does not involve chemical reactions, for example, and its concepts are routinely expressed in clear mathematical form.

Accordingly, Applicant respectfully submits that this rejection is fundamentally unsound and fails to make out a *prima facie* case of lack of enablement for the claimed invention.

With respect to claim 5's recited normalizing variation per track of the focus error and the surface vibration to control the tile, Applicant respectfully refers to the arguments presented above, in general, and specifically points out that normalizing is obtained by inducting FE AC variation. Normalizing is a conventional digital signal processing function. Normalizing a digital audio file,

for example, increases the gain of the audio file until its loudest point (or sample) is at maximum level. There are several benefits to this: First, the overall signal level is now higher, which makes subsequent gear in the audio chain perform better. Second, the signal is now taking advantage of the full resolution of the D/A converters; this also minimizes quantization noise in some cases.

Applicant respectfully submits that, by teaching what is normalized, that one of ordinary skill in the art will know how to normalize it, e.g., by disclosing that what is normalized is the variation per track of the focus error and the surface vibration, that one of ordinary skill in the art will know how to achieve the recited normalization.

With respect to claim 11, one of ordinary skill in the art will know how to obtain an AC value from an FE signal, how to obtain a DC value from an RF signal; and how to obtain an AC value from an RF signal, based on the skill level of one of ordinary skill in the art, at least taking into consideration the factors discussed above. Such signal analysis is considered to be within the skill level of one of ordinary skill in the art based on the Applicant teaching what has to be obtained.

Reconsideration and withdrawal of this rejection of claims 2, 3, 5-9, 11 and 12 under 35 USC 112, first paragraph, is respectfully requested.

Rejections Under 35 USC 112, Second Paragraph

Claims 1-10 stand rejected under 35 USC 112, second paragraph for being indefinite. This rejection is respectfully traversed.

The Office Action states that "a track of a focus error" is unclear because Applicant does not indicate what is intended to be described as a "track" of focus error. Applicant respectfully submits that "detecting a track of a focus error" in claim 1 simply means, in more idiomatic English, "tracking a focus error."

With respect to claim 8, the claim merely recites that a normalized value (obtained by the last step in claim 5) is proportional to time where the disk is read/written at a constant speed, i.e., at a Constant Linear Velocity

With respect to claim 9, the claim merely recites that a normalized value (obtained by the last step in claim 5) is proportional to length where the disk is read/written at a constantly increasing speed, i.e., at a constant angular velocity.

Accordingly, Applicant respectfully submits that claims 8 and 9 have a meaning that is clear and definite.

With respect to claim 10, the Office Action states that claim 10 does not describe how the steps of "wobbling a tilt driving block," "obtaining an FE track," and "normalizing the FE track" are cooperatively related in order to achieve tilt control.

Applicant respectfully submits that the test for compliance with the second paragraph of 35 USC 112, as stated in Miles Lab., Inc. v. Shandon Inc.,

997 F.2d 870, 875, 27 USPQ2d 1123, 1126 (Fed. Cir. 1993), cert. denied, 510 U.S. 1100 (1994) is whether one skilled in the art would understand the bounds of the claims when read in light of the specification. If the claims, read in light of the specification, reasonably apprise those skilled in the art of the scope of the invention, Section 112 demands no more. See, also, In re Merat, 519 F.2d 1390, 1396, 186 USPQ 471, 476 (CCPA 1975), which stated that the question under Section 112, second paragraph is whether the claim language, when read by a person of ordinary skill in the art in light of the specification, describes the subject matter with sufficient precision that the bounds of the claimed subject matter are distinct. See, also, In re Warmerdam, 33 F3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). Moreover, this claim recites "substantially." Use of that term in a claim does not render the claim indefinite if the specification provides a standard whereby one of ordinary skill in the art would understand what is claimed when the claim is read in light of the specification, Seattle Box Co., Inc. v. Industrial Coating and packing, Inc., 731 F.2d 818, 826, 221 USPQ 568, 573-4 (Fed. Cir. 1984).

In light of the aforementioned fundamental principles of U.S. patent case law, Applicant respectfully submits that the metes and bounds of claim 10 are clear as it stands and there is no need to describe how the claimed steps are cooperatively related in claim 10 to achieve tilt control. Moreover, Applicant respectfully submits that one of ordinary skill in the art can figure out that cooperative relationship by reading the specification in light of claim 10.

Reconsideration and withdrawal of this rejection of claims 1-10 under 35 USC 112, second paragraph is respectfully requested.

Rejections Under 35 USC §103(a)

Claims 1-4 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent 5,107,478 to Tamaru et al. ("Tamaru") in view of U.S. Patent 5,682,372 to Yamakawa et al. ("Yamakawa"). This rejection is respectfully traversed.

Because the rejection is based on 35 USC §103, what is in issue in such a rejection is "the invention as a whole," not just a few features of the claimed invention. Under 35 U.S.C. §103, "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." The determination under §103 is whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. See In re O'Farrell, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). In determining obviousness, the invention must be considered as a whole and the claims must be considered in their entirety. See Medtronic, Inc. v. Cardiac Pacemakers, Inc., 721 F.2d 1563, 1567, 220 USPQ 97, 101 (Fed. Cir. 1983).

In rejecting claims under 35 USC 103, it is incumbent on the Examiner to establish a factual basis to support the legal conclusion of obviousness. See, In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. F-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. Note, In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). To establish *prima facie* obviousness of a claimed invention, all the claim

limitations must be suggested or taught by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1970). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

A showing of a suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding." C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232(Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." See In re Dembiczak, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999).

Tamaru discloses a tilt device for controlling the optical axis of an optical head in an optical disc playback device, which includes a servo system responsive to the detection signal for controlling the tilt mechanism to maintain the distance between the optical pickup and the optical disc constant. In columns 6 and 7, Tamaru discloses detecting the distance between the optical pickup and the optical disc on the basis of a focus drive DC voltage produced by the optical pickup – see col. 5, lines 45-68.

Tamaru does not disclose (1) tracking a focus error for maximizing an RF signal or maximizing jitter when a focus is on; or (2) calculating a variation per track of the focus error to control the tilt using the variation.

In order to remedy the deficiencies of Tamaru, the Office Action turns to Yamakawa, which discloses a system for playing back multilayer discs. Yamakawa focuses on a first recording layer and then focuses on a second recording layer – see col. 3, lines 14-67. The focus servo technique used by Yamakawa for each layer is applied generally at a point where the amplitude of the playback RF signal assumes a maximum value or the jitter of the playback RF signal is set to a minimum value – see col. 3, lines 45-47. As explained in col. 5, lines 9-58, Yamakawa's focus balance-setting circuit 16-2 adjusts the focus error voltage so that the optimum reading from the optical disc can be done.

The Office Action concludes that it would be obvious to detect the track of the focus error of Tamaru where an RF signal is maximum of jitter is minimum as suggested by Yamakawa, and to detect the maximum and minimum value of a focus error, the motivation being to obtain optimum focus to optimize reading from an optical disk.

The Office Action also refers to U.S. Patent 6,240,055 to Takamine et al. ("Takamine"), which allegedly teaches that the best focus is obtained where an RF signal is maximum or jitter is minimum.

Applicant does not understand this rejection to the extent that the Office Action does not make it clear whether Takamine is being applied as an alternative to, or in conjunction with, Yamakawa. Clarification is required.

Applicant respectfully submits that this rejection is also improper for a number of reasons other than not being clear.

Firstly, the stated rejection is based on two references, yet a third reference is mentioned in the last sentence of the rejection and it not clear how the third reference is applied, i.e., in addition to, or in the alternative to, the Yamakawa reference.

Secondly, Tamaru, the base reference, is directed to keeping a specified distance between the optical pickup and the optical disk to keep the optical axis of an optical pickup perpendicular to the bent surface of an optical disc – see the Abstract and col. 2, lines 41-46, by using a tilt feature, whereas Yamakawa has no disclosure of a tilt feature and, instead, is directed to obtaining a neutral focus balance characteristic for different layers of a multilayer disk. In other words, Yamakawa is not directed to controlling tilt at all and the Office Action contains no objective factual evidence that a skilled worker would be motivated to apply the focus control servo of Yamakawa to control the tilt of Tamaru.

Thirdly, Takamine is not directed to controlling tilt at all and the Office Action contains no objective factual evidence that a skilled worker would be motivated to apply the focus control servo of Takamine to control the tilt of Tamaru.

Fourthly, none of the applied references discloses "calculating a variation per track of the focus error" at all, let alone, "to control the tilt using the

variation," as recited. At best, the two secondary references, Yamakawa and Takamine, use their servo control to maintain proper focus and have no disclosure of calculating a variation per track of the focus error. The secondary references may detect focus error, but simply detecting it and calculating a variation of the focus error per track are two different things. Furthermore, neither of the two secondary references uses their focus error signal to control tilt.

Nor does Tamaru disclose such a feature. The Office Action alleges that Tamaru discloses this feature in col. 5, lines 46-53. All that is disclosed in this portion of Tamaru is that Tamaru's servo system 40, shown in Fig. 3, uses a focus drive DC voltage of optical pickup 25 as a signal for detecting the distance between optical disc D and optical pickup 25.

This disclosure is simply not a disclosure of calculating a variation of the focus error per track. Apparently realizing this, the Office Action speculates that the focus drive signal inherently has a maximum and minimum value and the focus drive signal as a whole produces a focus drive DC voltage which is the claimed "variation per track of the maximum value and the minimum value."

Applicant completely disagrees with this conclusion for a number of reasons.

Firstly, simply because a signal may have a maximum and a minimum value does not mean that such values are detected and used to calculate the

variation per track of the maximum value and minimum value of the focus error.

Secondly, simply producing a "focus drive DC voltage" does nothing about calculating the variation per track of the maximum value and minimum value of focus error.

Accordingly, this rejection of claims 1 and 2 is improper and should be withdrawn.

With respect to claim 3, Tamaru never mentions "variation per track" of anything, let alone "variation per track of focus error," and the assertion at col. 5, lines 46-61 has no basis in that portion of Tamaru. Moreover, the portion of claim 3 of Tamaru that is relied upon also fails to mention "variation per track" of anything, let alone "variation per track of focus error." These are positively recited features of the claims that cannot be ignored and are neither disclosed nor suggested by any of the applied art.

With respect to claim 4, see the comments above regarding claim 1.

Reconsideration and withdrawal of this rejection of claims 1-4 over two or three references (clarification being required to understand how the third reference is actually being applied) is respectfully requested.

Claims 5-7 stand rejected under 35 USC §103(a) as being unpatentable over Tamaru and Yamakawa, as applied in the rejection of claim 1, and further

in view of U.S. Patent 5,808,984 to Baba. This rejection is respectfully traversed.

Initially, it is not clear whether or not the Takamine reference (applied in an unclear manner in the rejection of claim 1) is part of this rejection. Clarification is required.

The Tamaru-Yamakawa reference combination does not render the claimed invention obvious at least for the reasons presented above regarding claim 1. Moreover, Baba is not applied to cure the deficiencies in the Tamaru-Yamakawa reference combination. Accordingly, this rejection of claims 5-7 is improper.

Furthermore, the Office Action admits that the Tamaru-Yamakawa reference combination fails to render claims 5-7 obvious because it does not disclose the steps of detecting a surface vibration from the trembling of a disk and/or normalizing the surface vibration to control the tilt.

To remedy these admitted deficiencies, the Office Action turns to Baba, which does not control tilt, as recited. Instead of controlling tilt, Baba detects the tilt (inclination) and simply inhibits recording or reproduction based on the detected tilt.

The Office Action also includes a fourth reference, U.S. Patent 4,631,712 to Matsubayashi et al. ("Matsubayashi"), without clearly stating whether it is applied in the alternative to, or in conjunction with, Baba. Matsubayashi

clearly does not control tilt, either. Instead, Matsubayashi corrects the intensity of the light beam when tilt is increased.

Accordingly, the assertion that both Baba and Matsubayashi control tilt (page 9, last sentence of the first paragraph) is incorrect. One of these two references merely inhibits recording instead of controlling the tilt and the other one of these two references merely adjusts laser beam intensity instead of controlling tilt. There is no adjustment of the tilt in either applied reference.

The Office Action actually admits that Baba does not control tilt (on page 8) and speculates that because Tamaru and Yamakawa disclose this feature, normalizing vibration to control tilt would be the inherent result of combining these references. This speculation is incorrect because Yamakawa does not disclose controlling tilt in any way, shape or manner at all, as pointed out above.

Applicant respectfully points out that the asserted combination of references is also improper because the Office Action fails to provide objective factual evidence of proper motivation to modify the improper Tamaru-Yamakawa reference combination as suggested in view of Baba.

Firstly, Tamaru already has a simple method of controlling tilt, i.e., using his simple servo system with two photodetectors and shows no need to provide yet another method of detecting and compensating for tilt.

Secondly, Baba does not disclose a method of controlling tilt. Instead, Baba merely teaches inhibiting recording when tilt is detected instead of

controlling tilt. If anything, Baba teaches just the opposite of Tamaru and actually teaches away from compensating for tilt. This would logically lead one of ordinary skill in the art to disable the tilt control feature of Tamaru rather than use it.

Thirdly, Matsubayashi, not clearly applied in the rejection, fails to control tilt. Instead of controlling tilt, Matsubayashi merely controls jitter, which is the amount of variation of the edges of pits or marks written by a laser. Logically, following Matsubayashi's teachings, one would disable the tilt control of Tamaru and simply modify the laser writing system to reduce jitter.

Fourthly, it is improper for an Examiner to pluck certain features from a reference while ignoring others in the same reference. Applicant respectfully submits that it is improper to ignore Baba's teaching and Matsubayashi's teaching of not controlling tilt when tilt is detected.

With respect to claim 6, the normalized value referred to in claim 6 is what is normalized in claim 5, namely a normalized value of the variation per track of the focus error and the surface vibration. Tamaru's DC voltage is not such a normalized value.

Claim 7 is patentable at least for the reasons that claim 5 are patentable, as discussed above.

Claim 8 stands rejected under 35 USC §103(a) as being unpatentable over Tamaru, Yamakawa, and Baba, as applied in the rejection of claim 5, and

further in view of U.S. Patent 6,215,747 to Jobs. This rejection is respectfully traversed.

Initially, it is not clear whether or not the Takamine reference (applied in an unclear manner in the rejection of claim 1 upon which the rejection of claim 5 is based) and/or the Matsubayashi reference (applied in an unclear manner in the rejection of claim 5) is part of this rejection. Clarification is required.

The Tamaru-Yamakawa-Baba reference combination does not render the claimed invention obvious at least for the reasons presented above regarding claims 1 and 5. Moreover, Jobs is not applied to cure the deficiencies in the Tamaru-Yamakawa-Baba reference combination. Accordingly, this rejection of claim 8 is improper.

Applicant again respectfully points out that the normalized value referred to in claim 8 is what is normalized in claim 5, namely a normalized value of the variation per track of the focus error and the surface vibration. Applicant submits that Jobs does not disclose such a feature. Jobs is directed to organizing data on a CD-ROM in order to increase data retrieval rate and is not directed to controlling tilt, and what the Office Action asserts is a normalized value, i.e., the location of a data file, is not a normalized parameter nor is it the normalized value recited in claim 8.

Reconsideration and withdrawal of this rejection of claim 8 is respectfully requested.

Claim 9 stands rejected under 35 USC §103(a) as being unpatentable over Tamaru in view of Yamakawa and Baba, as applied in the rejection of claim 5, and further in view of U.S. Patent 6,452,897 to Van Den Enden. This rejection is respectfully traversed.

Initially, it is not clear whether or not the Takamine reference (applied in an unclear manner in the rejection of claim 1 upon which the rejection of claim 5 is based) and/or the Matsubayashi reference (applied in an unclear manner in the rejection of claim 5) is part of this rejection. Clarification is required.

The Tamaru-Yamakawa-Baba reference combination does not render the claimed invention obvious at least for the reasons presented above regarding claims 1 and 5. Moreover, Jobs is not applied to cure the deficiencies in the Tamaru-Yamakawa-Baba reference combination. Accordingly, this rejection of claim 8 is improper.

Applicant again respectfully points out that the normalized value referred to in claim 9 is what is normalized in claim 5, namely a normalized value of the variation per track of the focus error and the surface vibration. Applicant submits that Van Den Enden does not disclose such a feature. Van Den Enden is directed to an optical disc having track portions with periodic characteristics wherein the phase characteristics include a phase jump at a predetermined distance before each header and is not directed to controlling tilt, and what the Office Action asserts is a normalized value, i.e. the radial

position of line 65, is not a normalized parameter nor is it the normalized value recited in claim 9.

Reconsideration and withdrawal of this rejection of claim 9 is respectfully requested.

Claim 10 stands rejected under 35 USC §103(a) as being unpatentable over U.S. Patent 5,001,690 to Kamiya et al. ("Kamiya") in view of Yamakawa and further in view of U.S. patent 4,712,205 to Smid et al. ("Smid"). This rejection is respectfully traversed.

Kamiya does not disclose wobbling a tilt drive block at a certain frequency, as claimed. Kamiya discloses a tilt servo circuit that tilt drives periodically in either direction depending on whether the RF level has increased or decreased as a result of a preceding drive – see col. 4, lines 3-28. Kamiya does not disclose wobbling at a certain, i.e., a specific, frequency, as claimed. Such "a certain frequency" is shown, for example, in Fig. 2A. Wobbling at "a certain frequency" is not disclosed or suggested by any of the applied art.

Nor does Kamiya use a focus error signal to control tilt. Instead, Kamiya uses a tilt error servo, separate from its focus error servo, to control tilt – see Fig. 1 and its associated description.

The Office Action admits that Kamiya does not disclose obtaining a focus error track at a point where a RF signal has the maximum value, or normalizing the detected FE track,

In an attempt to remedy these deficiencies, the Office Action turns to Yamakawa and Smid.

As noted above, Yamakawa has no disclosure of a tilt feature and, instead, is directed to obtaining a neutral focus balance characteristic for different layers of a multilayer disk. In other words, Yamakawa is not directed to controlling tilt at all and the Office Action contains no objective, factual evidence that a skilled worker would be motivated to apply the focus control servo of Yamakawa to control the tilt of Kamiya, especially because Yamakawa does not contain using a focus error signal to control tilt and because Kamiya does not disclose using a focus error signal to control tilt. As noted above, Kamiya discloses a separate tilt error servo (i.e., separate from its focus error servo), to control tilt.

Accordingly, one of ordinary skill in the art would not be motivated to modify Kamiya in view of Yamakawa, as suggested.

The Office Action then turns to Smid, which discloses using a normalized focusing error signal.

Applicant respectfully submits that even if the FE signal of the aforementioned improper Kamiya-Yamakawa reference combination were normalized in view of Smid, this would not render the claimed invention obvious

because, as pointed out above, the Office Action has not made out a *prima facie* case of modifying Kamiya in view of Yamakawa, as suggested.

Moreover, the proposed reference combination does not meet, or render obvious, the claimed invention for reason discussed above.

Reconsideration and withdrawal of this rejection of claim 10 is respectfully requested.

Claim 11 stands rejected under 35 USC §103(a) as being unpatentable over U.S. Patent 5,805,543 to Takamine et al, ("Takamine") in view of JP 01307933 to Suzuki. This rejection is respectfully traversed.

Takamine does not disclose a servo controlling unit having a tilt error detecting and controlling block for receiving RF and focus error signals outputted from said RF and servo error producing unit to produce DC and AC values about the tilt initialization and about an optical disk, as recited.

The Office Action turns to Suzuki in an attempt to remedy the shortcomings of Takamine.

Initially, Applicant notes that the Examiner is relying on an English language abstract of Suzuki and has not provided a translation of the entire Suzuki reference, which is in the Japanese language. Accordingly, the rejection is limited to the English language Abstract, and not to the entire Suzuki reference. Compare, in this regard, the unpublished decision by the USPTO

Board of Patent Appeals and Interferences in Ex parte Jones, 62 USPQ2d 1206 (BdPatApp&Int 2001).

Suzuki does not mention tilt initialization nor does Suzuki disclose producing DC and AC values about the tilt initialization and about an optical disk. Instead, Suzuki discloses detecting the focus drive DC voltage of the optical pickup and applies a tilt servo so the detected DC value becomes constant.

So, even if these references were combined as suggested, they would not result in, or render obvious, the claimed invention.

Moreover, the Office Action has not provided objective factual evidence of proper motivation to modify Takamine in view of Suzuki, as suggested, because Takamine appears to work properly without the need to be redesigned and the Office Action fails to indicate how Takamine's pulse width variation detector would work if the signal fed to it were the DC signals generated by Suzuki, which are clearly disclosed as becoming constant.

Reconsideration and withdrawal of this rejection of claim 11 is respectfully requested.

Claim 12 stands rejected under 35 USC 103(a) as unpatentable over Takamine in view of Suzuki as applied in the rejection of claim 11, and further in view of Yamakawa. This rejection is respectfully traversed.

Firstly, the Takamine-Suzuki reference combination is improper for the reasons discussed above, and Yamakawa is not applied to remedy the aforementioned improprieties in the Takamine-Suzuki reference combination.

Secondly, the Office Action speculates that an inherent result of the combination of Takamine and Suzuki in the rejection of claim 11 is a tilt error detecting and control block that includes a tilt controlling block for controlling the tilt using the RF signal and an FE signal.

Applicant respectfully disagrees because there is no proper motivation for combining these references, as suggested.

The Office Action also admits that neither Takamine nor Suzuki discloses including a peak error detecting block for detecting the peak of an RF envelope and a detecting block for detecting the maximum and minimum values of a focus error per one rotation of a disk.

As to the "one rotation per disk" feature, the Office Action provides no objective, factual evidence of the existence of such a feature in any of the applied references, or of the obviousness of including such a feature in the applied references.

Instead, the Office Action improperly states that Applicant has not disclosed that this feature provides an advantage and that adding such a feature would be an obvious matter of design choice.

This type of rationale is fundamentally unsound and has been since the 1952 Patent Act was enacted and in view of decisions such as Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), discussed above.

During patent examination the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. In re Oetiker, 977 F.2d 1443,

1445, 24 USPQ2d 1443, 1444(Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788(Fed. Cir. 1984). If the PTO fails to meet this burden, then the applicant is entitled to the patent.

A rejection must be based on objective evidence of record, not merely conclusionary statements of the Examiner. See, In re Lee, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). The Office cannot shift its burden of making a *prima facie* case of obviousness of the claimed invention by referring to unobvious or unexpected results or by speculating that a claimed feature is a mere design choice.

An Examiner may not, because of doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis required to make a proper rejection under the statutes, See, In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968).

The Office may not shift the burden to Applicant to disprove obviousness when the Office has not made out a *prima facie* case of obvious, including a *prima facie* case of proper motivation to provide a "per one rotation of the disk" feature.

Accordingly, the Office Action has not made out a *prima facie* case of obviousness of the invention recited in claim 12.

Reconsideration and withdrawal of this rejection of claim 12 is respectfully requested.

A fair, balanced appraisal of the prior art rejections of record indicate that they are prompted primarily by hindsight reconstruction of Applicant's claimed invention based solely on Applicant's disclosure.

Additional Cited References

Because the remaining references cited by the Examiner have not been utilized to reject the claims, but have merely been cited to show the state of the art, no comment need be made with respect thereto.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Robert J. Webster, Registration No. 46,472, at (703) 205-8076, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit

Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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Attachments